

Molecular Sieve Type 5A

Product Information

Description

ZEOCHEM Molecular Sieve Type 5A is an alkali aluminosilicate; it is the calcium form of the Type A crystal structure. Type 5A has an effective pore opening of about 5 angstroms.

Chemical Formula:

$4\text{CaO} \cdot \text{Na}_2\text{O} \cdot 0.5\text{Al}_2\text{O}_3 \cdot 10\text{SiO}_2 \cdot \text{XH}_2\text{O}$

Applications

ZEOCHEM Molecular Sieve Type 5A is the adsorbent used to remove water, CO_2 , H_2S and mercaptans from various fluids, such as natural gas. It is also used for the

separation of normal paraffin from streams containing branched chain and cyclic hydrocarbons. Additionally, it is used for the production of high purity nitrogen, oxygen, hydrogen and inert gases from air and other gas streams. It is especially suitable for pressure swing adsorbers. ZEOCHEM Molecular Sieve Type 5A will adsorb molecules with a kinetic diameter of less than 5 angstroms and exclude those larger.

Regeneration

ZEOCHEM Molecular Sieve Type 5A can be regenerated by pressure swing or purging at elevated temperatures. The purge gas temperature must be sufficiently high to bring the molecular sieve to a level of 400 to 600°F but not exceeding in any case 1000 °F. Higher temperatures could cause physical alteration of the molecular sieve structure. The degree of regeneration depends on the temperature and composition of the purge gas.

Type

Z5-01 Standard 5A Grade
Z5-02 Special (Isomer) Grade
Z5-03 COS Suppressant Grade

Typical Properties

Nominal pore diameter	5 angstroms	
Type of crystal structure	cubic	
Bulk density	44 lbs/cuft	
Equilibrium water capacity (theoretical)	21.7% wt.	
Water content (as shipped)	1.5% wt. (max.)	
Heat of adsorption (max.)	1,800 BTU/lb H_2O	
Specific heat (approx.)	0.23 BTU/lb/°F	
Commercial bead sizes (nominal)		
mesh	4x8	8x12
mm	2.5-4.5	1.5-2.5
crush strength, lbs.	16	7

ZEOCHEM Molecular Sieve 5A is available in powder form upon request.

Shipping Information

ZEOCHEM Molecular Sieve Type 5A beads are shipped in the following manner:

a. Bulk quick load bags (1500 lbs.);	b. 55 gal. steel drum containers (300 lbs. net);
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Shipping Point: Manufacturing Plant in Louisville, KY (USA)

The information contained herein is based upon our testing and experience and is believed to be accurate. Since operating conditions may vary and since we do not control such conditions, we must DISCLAIM ANY WARRANTY, EXPRESSED OR IMPLIED, with regard to results to be obtained from the use of our products or with regard to application of Zeochem techniques.

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Please contact your local Univar Sales Rep for further information or to place orders.